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La Haye  
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Zeichen/Ref./Réf.

EP 33970

Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.  
02004194.3

Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire

CANON KABUSHIKI KAISHA

## COMMUNICATION

The European Patent Office herewith transmits

- ☒ the European search report
- ☐ the declaration under Rule 45 EPC
- ☐ the partial European search report under Rule 45 EPC
- ☐ the supplementary European search report concerning the international application under Article 157(2) EPC relating to the above-mentioned European patent application. Copies of the documents cited in the search report are enclosed.

The following specifications given by the applicant have been approved by the Search Division :

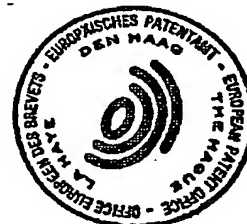
- ☐ Abstract
- ☒ Title
- ☒ Figure
- ☒ The abstract was modified by the Search Division and the definitive text is attached to this communication.
- ☐ The following figure will be published with the abstract, since the Search Division considers that it better characterises the invention than the one indicated by the applicant.

Figure:

- ☒ Additional copy(copies) of the documents cited in the European search report. → 3

## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.



EPO Form 1507 02.93




DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X ✓	US 6 178 009 B1 (HIRABAYASHI HIROMITSU ET AL) 23 January 2001 (2001-01-23) * column 1, line 7 - column 2, line 31 * * column 86, line 10 - column 91, line 38 *	1,2,5,7	B41J2/21 B41J11/00
X ✓	US 5 992 973 A (WEN XIN) 30 November 1999 (1999-11-30) * column 3, line 33 - line 50 * * column 4, line 24 - line 58 *	1,5,7	
X ✓	EP 1 043 166 A (SEIKO EPSON CORP) 11 October 2000 (2000-10-11) * column 1, line 29 - line 42 * * column 30, line 28 - line 31 * * column 31, line 54 - line 56 * * column 35, line 33 - line 55 * * column 35, line 37 - line 41 *	1,5,7	
A ✓	EP 0 962 324 A (CANON KK) 8 December 1999 (1999-12-08) * page 6, line 32 - line 34 *	3,4,6	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A ✓	EP 1 063 267 A (CANON KK) 27 December 2000 (2000-12-27) * page 27, line 46 - line 50 *	7-10	B41J
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 10 January 2003	Examiner Achermann, D
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	



### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1, 2 and 5

An ink-jet recording apparatus comprising a low-penetrable ink and a high-penetrable ink, and using only the high-penetrable ink when conducting margin-free recording.

2. Claims: 3, 4 and 6

An ink-jet recording apparatus comprising a low-penetrable ink and a high-penetrable ink, and gradually decreasing the amount of the low-penetrable ink and increasing gradually the amount of high-penetrable ink toward the edge of a recording medium when conducting margin-free recording.

3. Claims: 7-10

An ink-jet recording apparatus comprising an ink and a liquid composition that reacts with the ink when coming into contact with the ink, printing only with the ink when conducting margin-free recording.

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 00 4194

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

10-01-2003

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			EP	1063267 A2	27-12-2000
			US	6435677 B1	20-08-2002



## ABSTRACT / ZUSAMMENFASSUNG / ABREGE

02004194.3

An ink-jet recording apparatus is provided for conducting margin-free recording on the peripheral area of the recording medium including the edge thereof with excellent image quality even in the peripheral area in comparison with quality of the usual printing having a margin. A process therefor is also provided.

When printing without margin (margin-free recording), only dye ink (high-penetrable ink) is used, without using pigment ink (low-penetrable ink). The process of accumulation of ink on an ink-absorbent member is discussed. A process of applying ink and a liquid composition, so as to form their reaction product on a recording medium, is provided.